Application Serial No.: 10/605,380
Filing Date: 09/26/2003

Reply to Office action of: 05/25/2005
Attorney Docket No.: 2003-006

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application:

1. (Currently amended) A flameless tracer ~~utilizing an electronic light source,~~ for use with a projectile, comprising:

at least one G-hardened electronic light source for emitting a light visible to an observer during [[a flight of the projectile; and]] the entire flight of the projectile toward a target;

a power source, connected to the light source, for selectively providing electrical power to the light source when the projectile is launched[[.]];

wherein the G-hardened light source is positioned on, and secured to an outer perimeter of the projectile to selectively enhance visibility of the projectile during flight;

wherein the G-hardened light source remains secured to the outer perimeter of the projectile during the entire flight of the projectile toward the target; and

wherein upon impact of the projectile, the G-hardened light source is disconnected from the power source.

2. (Original) The flameless tracer of claim 1, wherein the visible light emitted by the light source comprises any one or more of:

a visible light spectrum;

an infrared spectrum; and

an ultraviolet spectrum.

3. (Currently amended) The flameless tracer of claim 1, wherein the electronic light source comprises at least one light-emitting diode.

4. (Original) The flameless tracer of claim 1, further comprising a driver circuit that is electrically connected to the power source and the light source, for providing a plurality of pulses at different frequencies and intensities to the light source during the projectile flight.

5. (Original) The flameless tracer of claim 1, wherein the power supply comprises a setback-activated battery.

6. (Original) The flameless tracer of claim 5, wherein the activation of the setback-activated battery occurs as a result of a high force applied to the setback-activated battery during the projectile launch.

7. (Original) The flameless tracer of claim 1, wherein the electronic light source comprises a plurality of miniaturized electronic light sources.

8. (Currently amended) The flameless tracer of claim 7, wherein the plurality of the miniaturized electronic light sources are suspended in a transparent gelatin-like substance.

9. (Currently amended) The flameless tracer of claim 8, wherein the miniaturized electronic light sources are dispersed at [[a]] the target upon impact illuminating the target.

10. (Original) The flameless tracer of claim 1, wherein the electronic light source is encased in a substance to harden the electronic light source for use in a high-force environment.

11-31. (Canceled)

32. (New) The flameless tracer of claim 1, further comprising a flameless, electronic light-emitting marker and a marker power source that energizes the marker upon any of a set back, a set forward, or a spin of the projectile.

33. (New) The flameless tracer of claim 1, further comprising an electronic light-emitting marker and a marker power source that energizes the marker upon impact of the projectile with a target area.

34. (New) The flameless tracer of claim 33, wherein the marker remains inactive during substantially the entire flight of the projectile until impact with the target area.

35. (New) The flameless tracer of claim 32, wherein the marker is housed inside a projectile body during the entire flight of the projectile.

36. (New) The flameless tracer of claim 35, wherein the projectile body is made of a material that is selected from a group of: transparent material or translucent material, for allowing a light beam generated by the marker to be visible to an observer during the projectile flight, thus causing the marker to act as a tracer.

37. (New) The marker of claim 32, wherein upon the projectile impacting the target area, the projectile breaks apart, allowing the light emitting marker to be dispersed over the target area.

38. (New) The marker of claim 37, wherein the light-emitting marker comprises any one or more of: an LED, a laser diode, a strobe, a miniature light source, a microminiaturized light source, and a photoelectric diode.

39. (New) The marker of claim 37, wherein the light-emitting marker comprises a micro-eletrical-mechanical system (MEMS).

40. (New) The marker of claim 32, wherein the light-emitting marker is mixed with a sticky substance, wherein upon the projectile impacting the target area, the sticky substance disperses over the target area, causing the light-emitting device to adhere on the target area.

41. (New) The marker of claim 40, wherein the sticky substance is made, at least in part, of silicone.

42. (New) The flameless tracer of claim 32, wherein the visible light emitted by any of the light source or the electronic light-emitting marker ranges from UV frequency, through a visible spectrum, to an infrared frequency.